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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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10/796,235

03/09/2004

Michael Charles Shelton

71626 US03

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7590

09/30/2008

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EXAMINER

HAIDER, SAIRA BANO

ART UNIT

PAPER NUMBER

1796

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DELIVERY MODE

09/30/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|---------------------------------------|--|
| Office Action Summary | Application No. 10/796,235 | Applicant(s) SHELTON ET AL. | |
| | Examiner SAIRA HAIDER | Art Unit 1796 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-64 is/are pending in the application.
- 4a) Of the above claim(s) 2-4,6-13,18 and 42-64 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,5,14-17 and 19-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7/17/2008 & 9/4/2008</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Applicant's submission filed on 7/17/2008 has been entered.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1, 5, 14-17, 19-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allen et al. (US 5,668,273).

4. Allen discloses carboxymethyl cellulose esters, specifically a carboxymethyl cellulose acetate butyrate (CMCAB) having: a degree of substitution per anhydroglucose unit (DS/AGU) of carboxymethyl of 0.20 to 0.75, a DS/AGU of hydroxyl from about 0.10 to 0.70, a DS/AGU of butyryl of about 0.10 to 2.60 and a DS/AGU of acetyl of 0.10 to 1.65, and having an inherent viscosity of 0.20 to 0.70 dL/g, as measured in a 60/40 (wt./wt.) solution of phenol/tetrachloroethane at 25 °C (col. 2, line 66 to col. 3, line 45).

5. The Allen reference fails to anticipate the claimed inherent viscosity range of 0.05 to 0.13 dL/g (or the claimed range of 0.07 to 0.13, as per claim 39), and the reference fails to disclose the claimed molecular weight and polydispersity values.

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6. In reference to the inherent viscosity range, it is noted that the Allen reference discloses a lower limit of 0.20 dL/g, wherein it is the examiner's position that one skilled in the art would have expected the composition of the Allen reference to have the same properties as the claimed composition. Additionally, a difference of 0.07 dL/g in the inherent viscosity is not expected to change the properties of the composition. It has been held that a *prima facie* case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985).

7. In reference to the claimed molecular weight and polydispersity values, it is noted that one of ordinary skill in the art recognizes that a reduction in the viscosity indicates a reduction in the molecular weight. Thus, the molecular weight is considered an inherent property of the aforementioned prior art composition. Thus, in view of the structural, chemical and viscosity similarities of the claimed composition that that of the prior art, the properties [molecular weights, polydispersity, acid number (claims 14-17), and clear solution formation (claims 20-35)] applicant claims are necessarily present. *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). Note, that because the references do not expressly teach or address the properties of the claimed invention, it does not mean that the properties are not inherently disclosed. Teaching the same compound(s) inherently discloses the corresponding properties. The references cannot possibly teach or address all of the properties, but implicitly all of the properties are present.

8. Once a reference teaching product appearing to be substantially identical is made the basis of a rejection, and the examiner presents evidence or reasoning tending to show inherency, as done above, the burden shifts to the applicant to show an unobvious difference. See MPEP § 2112.

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9. Claims 1, 5, 14-17, 19-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Obie (WO 01/35719 A2).

10. Obie discloses carboxymethyl cellulose esters, specifically a carboxymethyl cellulose acetate butyrate (CMCAB) having: a degree of substitution per anhydroglucose unit (DS/AGU) of carboxymethyl of 0.20 to 0.75, a DS/AGU of hydroxyl from about 0.10 to 0.70, a DS/AGU of butyryl of about 0.10 to 2.60 and a DS/AGU of acetyl of 0.10 to 1.65, and having an inherent viscosity of 0.20 to 1.70 dL/g, as measured in a 60/40 (wt./wt.) solution of phenol/tetrachloroethane at 25 °C (page 7, 2nd full paragraph).

11. The Obie reference fails to anticipate the claimed inherent viscosity range of 0.05 to 0.13 dL/g (or the claimed range of 0.07 to 0.13, as per claim 39), and the reference fails to disclose the claimed molecular weight and polydispersity values.

12. In reference to the inherent viscosity range, it is noted that the Obie reference discloses a lower limit of 0.20 dL/g, wherein it is the examiner's position that one skilled in the art would have expected the composition of the Obie reference to have the same properties as the claimed composition. Additionally, a difference of 0.07 dL/g in the inherent viscosity is not expected to change the properties of the composition. It has been held that a *prima facie* case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985).

13. In reference to the claimed molecular weight and polydispersity values, it is noted that one of ordinary skill in the art recognizes that a reduction in the viscosity indicates a reduction in the molecular weight. Thus, the molecular weight is considered an inherent property of the aforementioned prior art composition. Thus, in view of the structural, chemical and viscosity

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similarities of the claimed composition that that of the prior art, the properties [molecular weights, polydispersity, acid number (claims 14-17), and clear solution formation (claims 20-35)] applicant claims are necessarily present. *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). Note, that because the references do not expressly teach or address the properties of the claimed invention, it does not mean that the properties are not inherently disclosed. Teaching the same compound(s) inherently discloses the corresponding properties. The references cannot possibly teach or address all of the properties, but implicitly all of the properties are present.

14. Once a reference teaching product appearing to be substantially identical is made the basis of a rejection, and the examiner presents evidence or reasoning tending to show inherency, as done above, the burden shifts to the applicant to show an unobvious difference. See MPEP § 2112.

Response to Arguments

15. Applicant has argued that since the prior art references fail to function in the claimed range and disclose benefits obtained in particular applications via functioning at higher IV's, then the references guide one away from lowering the IV below the lowest disclosed limit. In response, the fact that the references do not function in the claimed range does not constitute a teaching away. Further, the fact that the higher IV is preferred for particular applications does not teach away from using the lower IV's in different applications.

16. As per MPEP § 2145, under the proper legal standard, a reference will teach away when it suggests that the developments flowing from its disclosures are unlikely to produce the objective of the applicant's invention. *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994). A statement that a particular combination is not a preferred embodiment does not teach away absent clear discouragement of that combination. *In re Fulton*, 391 F.3d at 1199-1200. Accordingly, the prior art references are not considered to teach away from the claimed invention.

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17. In support of their argument, applicants cite examples of Allen which do not meet the claimed values. In response, as per MPEP § 2123, patents are relevant for prior art for all they contain, specifically, disclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or nonpreferred embodiments. Thus, the examples of Allen which fall outside the claimed range do not constitute a teaching away from the alternative disclosures which fall within the claimed range. Thus, the rejection is maintained and rendered valid.

18. The examiner has clearly presented a prima facie case of obviousness to decrease the IV and function within the claimed range. In order to rebut the prima facie case of obviousness, it is necessary that applicants show either (a) that the art, in any material respect, teaches away from the claimed invention, or (b) that there are new and unexpected results relative to the prior art. See MPEP § 2144.05. Applicants have failed to sufficiently rebut the prima facie case of obviousness since applicants have neither shown that the art teaches away from the claimed invention.

19. Applicant has failed to show that the prior art teaches away from the claimed invention. Applicant has argued that both the Allen and the Obie reference teach away from the claimed invention. Applicants have cited US 5,994,530, as cited by Obie in support of their position. Applicants allege that the references disclose that an increase in the viscosity is beneficial in water borne compositions and provides superior compatibility (Allen @ col. 2, lines 53-62; '530 @ col. 3, lines 59-65). The entire disclosure of both the Allen and '530 references at the cited portion states that the waterborne compositions comprising the CMC esters exhibit an increase in viscosity with a small increase in concentration of CMC ester when treated with ammonia or an amine. Both Allen and the '530 reference fail to explicitly state what applicants have alleged is taught. The references state "[t]his is beneficial in waterborne coatings," such that upon the discussed treatment there is an increase in viscosity of the waterborne coatings, applicants claims are not drawn to this specific type

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of coating, wherein the cellulose esters are treated accordingly. Thus, the cited disclosures fail to teach away from the claimed invention.

20. The fact that Allen and the '530 reference recognize that inclusion of cellulose esters at a specific concentration in amine neutralized waterborne dispersions function as rheology modifiers, wherein the cellulose esters show exponential viscosity changes. Rapid viscosity build (exponential increases in viscosity) is useful in reducing runs and sags in waterborne spray applications (Allen @ col. 6, line 24-26; '530 @ col. 9, line 31-33). The reference fail to show that the prior art teaches away from the claimed invention. The references conclude that cellulose esters are useful as rheology modifiers when present in a specific concentration in a specific waterborne dispersion. Applicant's claims are not drawn to this specific type of waterborne composition, wherein the cellulose ester is present in a specific concentration. Thus, the cited disclosures fail to teach away from the claimed invention.

21. Applicant has argued that Allen teaches that an increase in viscosity helps prevent sagging of the coating (col. 16, lines 18-21). Applicant has improperly characterized the Allen reference, the entire disclosure of the Allen reference at/near the cited portion states that the viscosity increase on evaporation could help prevent sagging of the coating during a spraying operation. This characterization applies for the particular exemplified CMCAB present in the exemplified pigmented thermoplastic automotive basecoat. Again, applicant's claims are not drawn to this specific type of basecoat composition comprising the exemplified CMCAB in the stated amounts. Thus, the cited disclosures fail to teach away from the claimed invention.

22. In all of the above allegations of teaching away, the nature of the teaching is rendered highly relevant and is weighed into substance to determine that the Allen and '530 references fail to teach away from the combination. Thus the rejections are maintained.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to SAIRA HAIDER whose telephone number is (571)272-3553. The examiner can normally be reached on Monday-Friday from 10am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P. Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Randy Gulakowski/
Supervisory Patent Examiner, Art Unit 1796

Saira Haider
Examiner
Art Unit 1796